

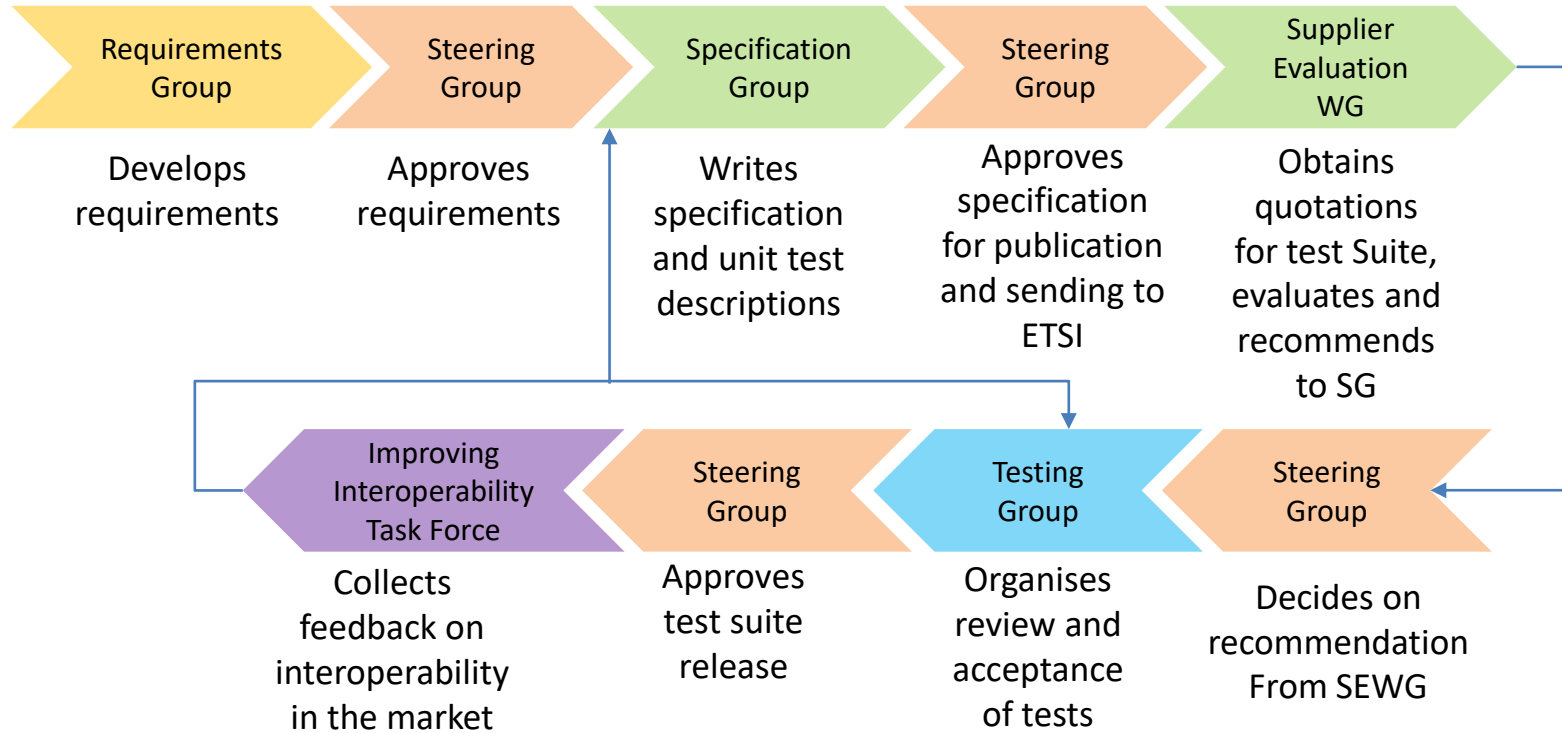


Update on our Specifications and Related Activities

Jon Piesing, TP Vision and HbbTV Vice-Chair



HbbTV Specification Workflow



- List of candidate new features compiled by HbbTV Requirements Group
 - e.g. New video codecs, new & updated web standards, picture-in-picture
 - Also candidate features to be dropped or made optional
- One new feature already decided – DRM
 - High quality TV content requires DRM and is critical for HbbTV
- Vote just started of HbbTV membership open until January 9th 2024
- Results will then be analysed
 - Which candidate new features have support across the whole value chain?
 - Are there enough features with enough support to justify creating 2.0.5 in 2024?

- Published by ETSI as [TS 102 796 V1.7.1 \(2023-09\)](#)
 - Overview (explainer) [available](#)
- Highlights
 - Integration with TVOS accessibility support
 - Integration with DVB-I OTT linear service discovery & services
 - Integration with voice assistant
- Plus smaller features, errata and some deprecations
 - Deprecation = announcement of intent to remove something in a *future* iteration

- Updated OpApp spec just published
 - Overview (explainer) available
- 2 main sets of features
 - Lessons learned from early OpApp deployments like HD+
 - OTT linear services (channels) streamed by the OpApp with "red button" apps overlaid
- Also smaller enhancements & bug fixes

- DRM guidelines (new specification)
 - Define integration between HbbTV and DRM systems
 - Can be referenced by HbbTV 2.0.5 and/or by national platform or operator
 - Provide guidance for content providers, platforms / operators and device implementers
 - Capture lots of "lessons learned" about HbbTV and DRM
- Targeted advertising ([TS 103 736-1](#) and [-2](#))
 - No change, collecting bug reports until we have enough to justify an update
- Application discovery over broadband ([TS 103 464](#))
 - No change, collecting bug reports until we have enough to justify an update

- Test suite mostly stable in 2023.
 - Around 2800 tests total with around 2300 approved.
 - Workflow issues with media for TA tests are under investigation
- MSE Media Playback Tests from CTA under review
 - Executed on devices in July and October plugfest / test event
 - Implementers whose device has been tested can get a recording from Fraunhofer
 - Will find problems like;
 - Video decoder stall
 - Frames dropped, e.g. from start / end
 - Error switching 1080p25 / 1080p50
 - Issues with tests & with media identified and addressed in CTA
 - Expect first CTA release soon
- New tests ordered for 2.0.4 and for audio watermark (only) from ADB2
 - 2.0.4 tests being delivered & reviewed
 - Includes DVB-I test materials that can be used for DVB-I without HbbTV
 - Highest priority audio watermark tests delivered
- HbbTV commissioned "minimum" implementations of the new features to accelerate test acceptance
 - Break the "chicken and egg" deadlock of tests needing to be validated on implementations and implementers not starting until there are tests
 - Extensions to "ORB" from Ocean Blue (OBS)

DASH-DRM Reference App & content

- Additions include multi-DRM, SL3000, AES-CBCS, persistent licenses, key rotation
- 2023 TV sets added to the "zoo" for testing

Developer portal

- Joint creation with Marketing & Education Group
- Highlights
 - Easy access API docs
 - Mistakes to avoid
 - Tutorials

DASH-IF DASH validator

- Collaboration of ATSC, CTA, DASH-IF, DVB and HbbTV
 - Re-architected for greater reliability
 - Several releases fixing bugs

DASH DRM Reference App Example Results



	A	B	C	D	E	F	G	H	I	J	K	L
1	Index	Model year	HbbTV	Basic DRM (same KID)	Subtitles	Audio Switch	Ad Insertion (trad)	Live DASH	Multiperiod (MSE-EME)	Different KID SL2000	SL3000	CBCS (MSE-EME)
3	3	2017	1.2.1	OK	OK	OK	OK	OK	NOT OK	OK	NOT OK	NOT OK
4	8	2017	1.2.1	OK	OK	OK	NOT OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
7	14	2017	1.4.1	OK	OK	NOT OK	NOT OK	OK	OK	NOT OK	NOT OK	NOT OK
8	16	2017	1.2.1	OK	NOT OK	NOT OK	NOT OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
11	23	2017	1.4.1	OK	NOT OK	NOT OK	OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
13	32	2017	1.2.1	OK	OK	OK	OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
14	34	2017	1.2.1	OK	OK	OK	OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
22	59	2017	1.2.1	NOT OK	NOT OK	NOT OK	OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
33	73	2017	1.2.1	OK	OK	OK	OK	OK	NOT OK	NOT OK	NOT OK	NOT OK
38	80	2017	1.2.1	OK	OK	OK	OK	OK	NOT OK	NOT OK	NOT OK	
64	122	2017	1.2.1	OK	NOT OK	NOT OK	NOT OK	NOT OK	NOT OK	NOT OK	NOT OK	NOT OK
74	143	2023	1.6.1	OK	OK	OK	OK	OK	OK	OK	OK	OK
75	144	2023	1.6.1	OK	OK	OK	OK	OK	OK	OK	OK	OK
76	145	2023	1.6.1	OK	OK	OK	OK	OK	OK	OK	OK	OK
79	160	2023	1.6.1	OK	OK	OK	OK	OK	OK	OK	OK	OK
84	172	2023	1.6.1	OK	OK	OK	OK	OK	OK	OK	OK	OK
88	183	2023	1.6.1	OK	OK	OK	OK	OK	OK	OK	OK	NOT OK
89	184	2023	1.6.1	OK	OK	OK	OK	OK	OK with comments	NOT OK	NOT OK	OK